



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/361,700      | 07/27/1999  | PIERRICK DESCURE     | S1022/8201          | 5850             |

7590 05/28/2004  
JAMES H MORRIS  
WOLF GREENFIELD & SACKS PC  
FEDERAL RESERVE PLAZA  
600 ATLANTIC AVENUE  
BOSTON, MA 022102211

EXAMINER

MUNSON, GENE M

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2811

DATE MAILED: 05/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/361,700

Applicant(s)

P. DESURE

Examiner

G. MUNSON

Group Art Unit

2811

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- ☒ Responsive to communication(s) filed on 10 May, 10 March 2004
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 1-18, 27-34 is/are pending in the application.
- Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-18, 27-34 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement

## Application Papers

- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some\* ☐ None of the:
  - ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- ☐ Interview Summary, PTO-413.
- ☐ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other \_\_\_\_\_

Office Action Summary

Art Unit: 2811

Examination is continued under 37 CFR 1.114.

Claims 31-34 are rejected under 35 U.S.C. 112, first and second paragraphs. The "increases the effective capacitance of the photodiode" is misdescriptive. See Figures 1A, 1B; specification, pages 2-3. An increased capacitance is parallel to the capacitance of a photodiode PN junction (Figure 1B), which is formed of an N type region in a P type substrate (Figure 1A). The scope of "effective capacitance" relative to "capacitance" is unclear. The claims are considered insofar as a possible scope is understandable.

The "interferentially filtered" (claim 1) and "wherein ..." clauses (claims 12, 17, 27) are taken as a possible desired result, or inherent, of the structure otherwise claimed, rather than an additional structural limitation.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2811

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 8, 12-15, 17 and 28-33 are rejected under 35 U.S.C. 103 as unpatentable over Koike et al. See Figure 2, column 4, lines 4-7, 46-52. Since Koike et al (column 4, lines 4-7, 46-52) teach to have conductive films fixed to a predetermined voltage which may be ground potential, it would have been obvious to have the substrate 1 at ground potential and the conductive film electrodes 13 (Figure 2) either connected to the substrate 1 or via a fixed potential (claim 2). The "interference filter" insofar as claimed reads on "silicon oxide" layer 12R, 12G, 12B and "polysilicon" layer 13; the "regions" read on photodiode regions 5R, 5G, 5B. The claims remain broad in scope. The different thickness of insulating layers (claims 28-30) in Figure 2C of this application are shown by the different thickness of insulating layers in Figure 2 of Koike et al. The "first", "second" and "third" subportions of the "one insulating layer" (claims 28, 29) read on inherent subportions of insulating layers in Figure 2 of Koike et al.

Claims 12, 13, 17, 32 and 33 are rejected under 35 U.S.C. 102 as unpatentable as shown by Nagasaki et al. See Figures 1, 3. A "region" (claims 12, 17) reads on region 2; the "interference filter" insofar as claimed reads on "insulating" layer 4 and "conductive" layer 9 or 21. The claims remain broad in scope.

Claims 27 and 34 are rejected under 35 U.S.C. 103 as unpatentable over Koike et al, as in the above rejection, considered together with Merrill '744. It would have been obvious to have

Art Unit: 2811

photodiodes as in Koike et al (Figure 2), in a well region as suggested by Merrill (Figure 7) with a "base substrate" similar to region 50 of Merrill, in order to provide isolation for the photodiodes.

Claims 11 and 18 are rejected under 35 U.S.C. 103 as unpatentable over Koike et al, as in the above rejection of claim 17, further considered together with Nagano. For a connection of an electrode as in Koike et al (Figure 2) to a substrate, it would have been obvious to use a "heavily" doped region, as in Nagano (Figure 3, region 5a), in order to provide a low resistance ohmic contact region for the connection.

Claim 18 is rejected under 35 U.S.C. 103 as unpatentable over Nagasaki et al, as in the above rejection of claim 17, considered together with Nagano, applied as in the above rejection.

Claims 12, 17, 18, 27 and 32-34 are rejected under 35 U.S.C. 102 as unpatentable as shown by Motojima et al. See Figure 5. The "interference filter" insofar as claimed reads on "insulating" layer 6<sub>2</sub> and "conductive" layer 4. The "conductive portion" includes wiring 5a. The "capacitance" (claims 32-34) is inherent of the structure claimed in claims 12, 17 and 27.

Claims 7, 9, 10 and 16 are rejected under 35 U.S.C. 103 as unpatentable over Koike et al, as in the above rejection of claims 1, 8 and 15, further considered together with Motojima et al. It would have been obvious to use a silicon nitride layer, as in Motojima et al (Figure 5, layer 8; column 3), over electrodes 13 of Koike et al (Figure 2) in order to provide passivation.

The references are all of record.

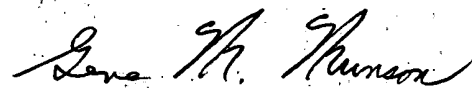
Art Unit: 2811

The arguments in the remarks which accompany the amendment, filed 10 March 2004 and now entered, have been considered but are not wholly persuasive. Contrary to the remarks (pages 7-14), during patent examination, it is *not* proper to read limitations appearing in the specification (page 3, lines 29-31) into a claim when these limitations are not recited in the claim. The *claimed* structure of the "interference filter" still does not distinguish over the same structure in Koike et al, Nagasaki et al and Motojima et al, which all disclose the claimed "conductive" layer over an "insulating" layer. Applicant's "difficulty lies in the breadth of the claims." *In re Sovish*, 226 USPQ 771, 774 (Fed. Cir. 1985). The scope of claims 1, 12, 17 and 27 are not commensurate with the arguments about thickness of materials of an interference filter in the remarks (pages 8-13).

No claim is allowed.

Munson  
(571) 272-1659

5/21/04



GENE M. MUNSON  
EXAMINER  
GROUP ART UNIT 2811